

CLAIMS

What is claimed is:

1. A filter plate having improved wear-resistance, comprising:
a filter plate having a feed port and passageway for the egress of filtrate from said filter plate;
replaceable wear elements positioned on said filter plate in proximity to said passageway and providing at least one filtrate opening and channel to direct filtrate flow from said filter plate.
2. The filter plate of claim 1 wherein said replaceable wear elements further comprise:
at least one replaceable wear plate attached to said filter plate;
at least one filtrate opening formed through said replaceable wear plate; and
a replaceable filtrate channel insert having at least one opening formed therethrough for alignment with said at least one filtrate opening to provide fluid communication between said at least one wear plate and said filtrate channel insert.
3. The filter plate of claim 2 further comprising a replaceable filtrate outlet insert positioned to be in fluid communication with said filtrate channel insert to redirect the direction of flow of filtrate from said filter plate.
4. The filter plate of claim 2 wherein said filtrate channel insert comprises an

inner layer of wear-resistant material and an outer layer of wear-resistant material, said material of said inner layer being more wear-resistant than said material of said outer layer.

5. The filter plate of claim 3 wherein said filtrate outlet insert comprises an inner layer of wear-resistant material and an outer layer of wear-resistant material, said material of said inner layer being more wear-resistant than said material of said outer layer.

6. The filter plate of claim 1 wherein said wear elements are made of material more wear-resistant than said filter plate.

7. Wear elements for use in a filter press plate to reduce wear in the filter plate, comprising:
at least one replaceable wear plate made of wear-resistant material which is configured to be inserted in and along the recessed face of a filter plate; and
filtrate holes formed in said wear plate to provide egress for filtrate fluid from a filtrate plate.

8. The wear elements of claim 7 further including a replaceable filtrate channel insert made of wear-resistant material and configured to be received in a filtrate channel formed in a filter plate, said filtrate channel insert further comprising apertures formed through the wall thereof, said apertures being formed in number and

position to be aligned with said filtrate holes formed in said wear plate.

9. The wear elements of claim 8 wherein said replaceable filtrate channel insert is formed with an inner layer of wear-resistant material and an outer layer of wear-resistant material, said material of said inner layer being more wear-resistant than said material of said outer layer.

10. The wear elements of claim 9 wherein said replaceable filtrate channel insert is configured to non-rotationally register with a pre-formed filtrate channel of a filter plate.

11. The wear elements of claim 8 further including a replaceable filtrate outlet insert made of wear-resistant material, said filtrate outlet inset having an opening formed through the wall thereof which is positioned to be aligned with said filtrate channel insert.

12. The wear elements of claim 11 wherein said replaceable filtrate outlet insert comprises an inner layer of wear-resistant material and an outer layer of wear-resistant material, said material of said inner layer being more wear-resistant than said material of said outer layer.

13. A wear element for use in a filter press plate to reduce wear in the filter plate, comprising a replaceable filtrate channel insert sized and configured for receipt

within a pre-formed filtrate channel in a filter plate, said filtrate channel insert having at least one aperture formed through a wall thereof to receive filtrate from a filter plate for egress from the filter plate.

14. The wear element of claim 13 wherein said filtrate channel insert has one open end and one closed end.

15. The wear element of claim 13 wherein said replaceable filtrate channel insert comprises an inner layer of wear-resistant material and an outer layer of wear-resistant material, said material of said inner layer being more wear-resistant than said material of said outer layer.

16. The wear element of claim 13 wherein said filtrate channel insert has a first closed end and a second closed end and at least one opening in proximity to said aperture through which filtrate is communicated away from said filtrate channel insert.

17. The wear element of claim 16 further comprising a filtrate outlet insert positioned to insert said filtrate channel insert, said filtrate outlet insert having a bore in fluid communication with said at least one opening of said filtrate channel insert.

18. A wear element for use in a filter press plate to reduce wear in the filter plate, comprising a replaceable filtrate outlet insert sized and configured for receipt within a pre-formed filtrate outlet in a filter plate, said filtrate outlet insert having at least

one opening formed through a wall thereof to receive filtrate from a filter plate for egress from the filter plate.

19. The wear element of claim 18 wherein said replaceable filtrate outlet insert further comprises an inner layer of wear-resistant material and an outer layer of wear-resistant material, said material of said inner layer being more wear-resistant than said material of said outer layer.